



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/804,913

03/19/2004

Steve Barhorst

22176.23

8366

29127 7590 02/07/2007
HOUSTON ELISEEVA
4 MILITIA DRIVE, SUITE 4
LEXINGTON, MA 02421

EXAMINER

TRAN, LEN

ART UNIT

PAPER NUMBER

1725

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

02/07/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/804,913

Applicant(s)

BARHORST ET AL.

Examiner

Len Tran

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 37-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 37-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gault (US 6,303,891), and further in view of Marshall et al (US 4,800,131)

Gault discloses the method for GMAW for ferrous alloy comprising the steps of feeding a consumable electrode into a GMAW apparatus, using Argon as the shielding gas and *less than 1% of Nitrogen, since Nitrogen is not present in the gas* (abstract), then igniting an arc between the ferrous alloy workpiece and the electrode.

Gault fail to teach the core having a sheath with metal powder up to 44% wt of the core composition.

However, Marshall et al disclose using a metal-core having a sheath for the purpose of improving bead appearance and joint quality (abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have core with a sheath as taught by Marshall et al, in Gault in order to improve the joint quality.

In addition, Marshall et al does not teach the powder weight percentage. However, Marshall mentions the diameter range and the powder composition. Therefore, it would have

Art Unit: 1725

been obvious to use 44% wt of powder, since the amount would depend on the weld quality desired.

3. Claims 37-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gault (US 6,303,891), and further in view of Marshall et al (US 4,800,131), in view of Church (US 4,463,243).

Gault and Marshall et al disclose the claimed invention above, but lacks the mentioning of oxygen content less than 0.06%, fume generation not exceeding 0.25 gms/min, arc with standard deviation of 0.2V to 0.3 V, and toughness of weld at 0 F at least 50ft-lb and 41 ft-lb at -20 F.

However, Church discloses using shielding gas having oxygen content between 0.1 to 1% (col. 7, line 62 – col. 8. line 17) for the purpose of permitting smaller diameter wires to carry higher current densities. In addition, Church discloses specific gas mixtures are varied with metal or metal alloys being welded (col. 8, lines 15-17).

Therefore, it would have been obvious to an ordinary skill in the art at the time applicant's invention was made to have oxygen content less than 0.06%, since this would depend on the metals to be weld.

Furthermore, it would have been obvious to have fume generation not exceeding 0.25 gms/min, arc with standard deviation of 0.2V to 0.3 V, and toughness of weld at 0 F at least 50ft-lb and 41 ft-lb at -20 F, since based on Church's disclosure that gas mixture will depend on the metal or metal alloys.

Response to Arguments

4 Applicant's arguments filed 9/19/06 have been fully considered but they are not persuasive.

Applicant argues on page 9 that Gault does not teach a non-oxidizing Ar atmosphere. Examiner respectfully disagrees. Gault discloses a shielding gas with very little oxygen to prevent any porosity occurring after welding. Applicant is arguing that Gault has more than 1% oxygen content, therefore, can not be a non-oxidizing atmosphere. Examiner respectfully disagrees. Since applicant is only claiming "non-oxidizing" is not define over the Gault reference. Gault's gas mixture may not be as pure as applicant's invention, but it is creating a non-oxidizing atmosphere for the weld. Therefore, based on the claimed interpretation, Gault discloses the claimed invention as claimed.

As to applicant's argument in page 9 regarding to claim 2, examiner interprets the claim based on "less than 1% of N₂, N₂O, O₂, or CO₂" and surely there is no presence of N₂. Therefore, it is less than 1%.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 1725

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiry

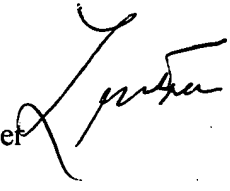
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Len Tran whose telephone number is (571) 272-1184. The examiner can normally be reached on M-F, 8:30 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1725

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Len Tran
Primary Examiner
Art Unit 1725



February 4, 2007